

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 10/23/2007

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Glass/Quartz, Chrome

PartType: Coupon

Contaminants: Films, Soaps

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate supplied products for glass cleaning on two substrates using manual wiping.

Experimental Procedure: The four supplied cleaning product were used at the supplied concentrations.
Prewieghed chrome and glass coupons were coated with SSL Soil 2 (Glass soap scum: Colgate Regular shaving cream 5.3%, Arid Extra Extra Spray Deodorant 3.5%, Suave Naturals Flexible Hold hair spray 3.7%, Aleeda Texturizing hair gel 25.6% Colgate Total toothpaste 10.4%, Water 51.5%) by pump spraying the mix. The soil was allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added.
Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly-Clark WypAll X60 reinforced wipe was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The cleaning unit was run for 5 cycles (~9 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded, efficiencies were calculated and recorded.

Results: All four products removed over 95% of the soap scum from the two surfaces. The table lists the amount of soil added, the amount remaining, the efficiency for each coupon cleaned and the average removal from each substrate type.

| Cleaner | Substrate | Initial wt | Final wt | % Removed |
|---------------|---------------|------------|----------|-----------|
| Windex | Glass | 0.0653 | 0.0021 | 96.78 |
| | | 0.0635 | 0.0014 | 97.80 |
| | | 0.0636 | 0.0033 | 94.81 |
| | Chrome Plated | 0.0657 | -0.0258 | 139.27 |
| | | 0.0843 | -0.0224 | 126.57 |
| | | 0.1121 | -0.0123 | 110.97 |
| Meyer Widow | Glass | 0.0548 | 0.0027 | 95.07 |
| | | 0.0641 | -0.0007 | 101.09 |
| | | 0.0921 | 0.0039 | 95.77 |
| | Chrome Plated | 0.1441 | -0.0071 | 104.93 |
| | | 0.0881 | -0.0125 | 114.19 |
| | | 0.0930 | -0.0075 | 108.06 |
| Seventh Glass | Glass | 0.0593 | 0.0013 | 97.81 |
| | | 0.0344 | 0.0014 | 95.93 |
| | | 0.0461 | 0.0026 | 94.36 |
| | Chrome Plated | 0.1634 | -0.0131 | 108.02 |
| | | 0.1162 | -0.0271 | 123.32 |
| | | 0.1042 | -0.0255 | 124.47 |
| DFC Glass | Glass | 0.0554 | 0.0077 | 86.10 |
| | | 0.0698 | 0.0044 | 93.70 |
| | | 0.0747 | 0.0058 | 92.24 |
| | Chrome Plated | 0.1213 | -0.0005 | 100.41 |

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| | | 0.1257 | -0.0013 | 101.03 |
| | | 0.0966 | -0.0001 | 100.10 |

Summary:

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|--------------------------------|-------------------------------------|----------------------|--------------------|-------------------------------------|----------------------|
| Substrates: | | Glass/Quartz, Chrome | | | |
| Contaminants: | | Films, Soaps | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| SC Johnson & Son Inc | Windex Glass & More Cleaner (Spray) | 100 | 95.42 | <input checked="" type="checkbox"/> | |
| Mrs Myers Clean Day | Mrs Meyers Glass Cleaner | 100 | 97.62 | <input checked="" type="checkbox"/> | |
| Seventh Generation | Natural Glass and Surface Cleaner | 100 | 96.50 | <input checked="" type="checkbox"/> | |
| Cogent Environmental Solutions | DFC Glass | 100 | 95.44 | <input checked="" type="checkbox"/> | |

Conclusion:

All four products surpassed the 85% cut off level for effectiveness.